NSCA 2016 TACTICAL STRENGTH AND CONDITIONING ANNUAL TRAINING

APRIL 25 – 28, 2016 | SAN DIEGO, CA
SAN DIEGO MARRIOTT MISSION VALLEY

FIT TO SERVE. STRENGTH TO PERFORM.
Comprehensive Performance Nutrition Program Concepts for Tactical Occupations

Karen Daigle, MS, RD, CSSD, CSCS
Christi Logan, MS, RD, CSSD
Overview

• Human Performance Optimization (HPO) model

• Comprehensive performance nutrition program
  – Components
  – Considerations

• Take-away points
Disclaimers

• This information represents our professional opinions, they are not the official views of the U.S. government or DoD

• Not going to give specific individualized nutrition guidance

• This is a working model, not the final say
Traditional Nutrition Programs

Health Promotion

Medical Nutrition Therapy (MNT)

Dietary Supplements
Holistic Human Performance Optimization (HPO) Program Model

ACTIVE
Environmental and Task-Specific Performance

PROACTIVE
Health Promotion and Chronic Condition/Disease Prevention

REACTIVE
Medical Treatment and Therapy

Comprehensive Performance Nutrition for Special Operations Forces

Karen A. Daigle, MS, RD, CSSD, CSSCS; Christy M. Logan, MS, RD, CSSD, LDN; Kase S. Kottler, MS, RDN

ABSTRACT
Special Operations Forces (SOF) training, combat, and contingency operations are unique and demanding. Performance nutrition within the Engagement of Endurance has emphasized that nutrition is relative to factors limited to the internal outcome, which includes success for performance of mentally and physically demanding operations. Performance of mental and physical endurance requires specific environmental and task conditions. Health, environmental, and task-specific performance factors are operational, organizational, and patient categories that require different nutrition strategies to achieve category-specific performance success. A Special Operations Nutrition Program (SONP) provides recommendations for Special Operations and medical providers, as well as personnel for diet supplement evaluation. Operational health concerns, medical treatment, and task-specific performance factors should be considered when developing and implementing a comprehensive, unit-specific, performance nutrition plan. Progress in developing and implementing a comprehensive, unit-specific, performance nutrition plan will be based on departmental need, and culture-specific nutrition education and service can optimize individual Special Operations performance, overall unit resilience, and ultimately, mission success.

SYMPOSIUM: Nutrition performance military; Special Operations Forces; Performance nutrition

Introduction
Performance nutrition is a critical component of modern performance optimization; although performance nutrition includes eating patterns, food categories, and dietary supplements, the current systems are focused on those categories. The aim of this article is not to provide guidelines with specific guidelines but rather to improve performance through developing and implementing a comprehensive performance nutrition program within Special Operations Forces (SOF). At present, there are currently very few board-certified sports dietitians with special SOF experience, practical recommendations are also provided to assist Special Operations and SOF medical providers

Many of the nutrition information available to SOF is reprinted from traditional sport, human performance, and nutrition science guidelines, e.g., the military’s Comprehensive Nutrition Program (CNP) and Operational Physical Fitness Program (OPFP). These programs are operational, organizational, and patient categories that require different nutrition strategies to achieve category-specific performance success. A Special Operations Nutrition Program (SONP) provides recommendations for Special Operations and medical providers, as well as personnel for diet supplement evaluation. Operational health concerns, medical treatment, and task-specific performance factors should be considered when developing and implementing a comprehensive, unit-specific, performance nutrition plan. Progress in developing and implementing a comprehensive, unit-specific, performance nutrition plan will be based on departmental need, and culture-specific nutrition education and service can optimize individual Special Operations performance, overall unit resilience, and ultimately, mission success.

SYMPOSIUM: Nutrition performance military; Special Operations Forces; Performance nutrition

Introduction
Performance nutrition is a critical component of modern performance optimization; although performance nutrition includes eating patterns, food categories, and dietary supplements, the current systems are focused on those categories. The aim of this article is not to provide guidelines with specific guidelines but rather to improve performance through developing and implementing a comprehensive performance nutrition program within Special Operations Forces (SOF). At present, there are currently very few board-certified sports dietitians with special SOF experience, practical recommendations are also provided to assist Special Operations and SOF medical providers

Many of the nutrition information available to SOF is reprinted from traditional sport, human performance, and nutrition science guidelines, e.g., the military’s Comprehensive Nutrition Program (CNP) and Operational Physical Fitness Program (OPFP). These programs are operational, organizational, and patient categories that require different nutrition strategies to achieve category-specific performance success. A Special Operations Nutrition Program (SONP) provides recommendations for Special Operations and medical providers, as well as personnel for diet supplement evaluation. Operational health concerns, medical treatment, and task-specific performance factors should be considered when developing and implementing a comprehensive, unit-specific, performance nutrition plan. Progress in developing and implementing a comprehensive, unit-specific, performance nutrition plan will be based on departmental need, and culture-specific nutrition education and service can optimize individual Special Operations performance, overall unit resilience, and ultimately, mission success.
Human Performance Optimization (HPO) Program

Population
Current State
Physical and Mental

Population
Desired End State
Physical and Mental

Resources
Knowledge
Environment
Competing Interests
Organizational Culture
# Specificity of Performance Outcomes

<table>
<thead>
<tr>
<th>Category</th>
<th>Operational Personnel, In-Season Athletes</th>
<th>Non-Operational Personnel, Off-Season Athletes</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Individuals with competitive sport or specialized, task-specific physical requirements</td>
<td>Generally healthy, sedentary or active, individuals with no contraindications for exercise, recreational sport or physical occupations</td>
<td>Individuals with a disease state/condition that is complex, uncontrolled and/or involves multiple co-morbidities</td>
</tr>
<tr>
<td><strong>Education and Services</strong></td>
<td>Individualized, task-specific performance plan</td>
<td>Non-individualized, generic public health guidelines and recommendations</td>
<td>Individualized, condition-specific clinical care plan</td>
</tr>
<tr>
<td><strong>Performance Outcomes</strong></td>
<td>Excel in task-specific requirements with minimal injury and illness</td>
<td>Prevent chronic disease and enhance overall fitness and vitality</td>
<td>Perform activities of daily living and rehabilitation specific outcomes</td>
</tr>
</tbody>
</table>
### Example of Holistic Approach to HPO

<table>
<thead>
<tr>
<th>Physical</th>
<th>Proactive</th>
<th>Active</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Muscular</td>
<td>Health promotion and chronic condition/disease prevention</td>
<td>Environmental and task-specific performance</td>
<td>Medical nutrition therapy</td>
</tr>
<tr>
<td>• Cardiovascular</td>
<td></td>
<td></td>
<td>Medical treatment</td>
</tr>
<tr>
<td>• Biomechanical</td>
<td></td>
<td></td>
<td>Occupational therapy</td>
</tr>
<tr>
<td>• Metabolic</td>
<td></td>
<td></td>
<td>Physical therapy</td>
</tr>
<tr>
<td>Movement pattern training</td>
<td>Dynamic warm-up use</td>
<td>Medical nutrition therapy</td>
<td>Medical nutrition therapy</td>
</tr>
<tr>
<td>Fitness-focused exercise</td>
<td>Task-specific training</td>
<td>Medical treatment</td>
<td>Medical treatment</td>
</tr>
<tr>
<td>Immune-enhancing diet consumption</td>
<td>Post-event recovery practices</td>
<td>Occupational therapy</td>
<td>Occupational therapy</td>
</tr>
<tr>
<td></td>
<td>Event fueling strategies execution</td>
<td>Physical therapy</td>
<td>Physical therapy</td>
</tr>
<tr>
<td></td>
<td>Task-specific body composition achievement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mental function enhancement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arduous environment preparedness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental</td>
<td>Stress-coping strategies training</td>
<td>Task-specific arousal control training</td>
<td>Clinical therapy</td>
</tr>
<tr>
<td>• Intellectual</td>
<td>Sleep hygiene establishment</td>
<td>Visualization training</td>
<td>Behavioral counseling</td>
</tr>
<tr>
<td>• Emotional</td>
<td>Problem solving skills</td>
<td>Goal-setting practices</td>
<td></td>
</tr>
<tr>
<td>• Social</td>
<td>Team building training</td>
<td>Task concentration/focus training</td>
<td></td>
</tr>
<tr>
<td>• Spiritual</td>
<td>Environment sleep hygiene establishment</td>
<td>Sleep hygiene practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community involvement</td>
<td>Active communication skill practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Active family connectedness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strategic view awareness training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nutritious diet availability and selection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Comprehensive Performance Nutrition Program for SOF

Population Current State

Degraded by preventable nutrition-related chronic conditions/disease
Nutritionally unprepared to perform required tasks
Nutritionally non-supported for rapid injury/illness recovery

Population Desired End State
Unencumbered by preventable nutrition-related chronic conditions/disease
Nutritionally prepared to perform required tasks
Nutritionally supported for rapid injury/illness recovery

Resources
Nutrition Knowledge
Food Environment
Competing Interests
Organizational Culture
Education and Services
Organization-Specific Proportionality

A

B

C

D

Daigle and Logan, 2016

NSCA 2016 TACTICAL STRENGTH & CONDITIONING ANNUAL TRAINING
APRIL 25 – 28, 2016 | SAN DIEGO, CA | SAN DIEGO MARRIOTT MISSION VALLEY

everyone stronger
NSCA.com
Comprehensive Performance Nutrition Program Concept

**ACTIVE**
Environmental and Task-Specific Performance

**PROACTIVE**
Health Promotion and Chronic Condition/Disease Prevention

**REACTIVE**
Medical Treatment and Therapy

* Proactive
Chronic Disease Prevention
Immune System Enhancement

** Active
Event Fueling
Post-Event Recovery
Task-Specific Body Composition
Mental Function Enhancement
Arduous Environment Preparedness

*** Reactive
Illness and Injury Recovery
Proactive Component

• Relationship between optimal performance and baseline health and fitness
• Includes:
  – Chronic Disease Prevention
  – Immune System Enhancement
• Impacts individuals and organization
## PROACTIVE: Practical Application

<table>
<thead>
<tr>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Base on individual/population occupational and medical factors</td>
</tr>
<tr>
<td>• Support and promote foods and products shown to prevent chronic disease and enhance the immune system</td>
</tr>
<tr>
<td>• Use eating environments to model nutritious dining practices and as a hands-on educational experience</td>
</tr>
</tbody>
</table>
## PROACTIVE: Practical Application

<table>
<thead>
<tr>
<th>Program Director/HPO Lead</th>
<th>End User/Individual Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Actively support unit food service performance-based menu standards</td>
<td>• Be realistic about current status</td>
</tr>
<tr>
<td>• Actively support performance nutrition initiatives</td>
<td>• Focus daily nutrition on current duty assignment and medical situation</td>
</tr>
<tr>
<td>• Promote safe, effective, unbiased evidence based supplement recommendations</td>
<td>• Consume more whole foods</td>
</tr>
<tr>
<td></td>
<td>• Vote with your fork</td>
</tr>
<tr>
<td></td>
<td>• Use supplements strategically for deficiencies</td>
</tr>
</tbody>
</table>
Active Component

• Relationship between nutrition and optimal task-specific performance

• Includes:
  – Event fueling and post-event recovery
  – Task-specific body composition
  – Mental function enhancement
  – Arduous environment preparedness

• Impacts individuals and organizations
## ACTIVE: Practical Application

<table>
<thead>
<tr>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Support fueling and recovery plans based on event- and condition-specific factors</td>
</tr>
<tr>
<td>• Promote body composition recommendations based on occupational standards and job requirements</td>
</tr>
<tr>
<td>• Facilitate appropriate timing and availability of macro- and micro-nutrients, fluids, and dietary supplements for physical and mental performance optimization, including in arduous environments</td>
</tr>
<tr>
<td>• Encourage unbiased, safe, evidence-based dietary supplement evaluations and recommendations</td>
</tr>
</tbody>
</table>
ACTIVE: Practical Application

<table>
<thead>
<tr>
<th>Program Director/HPO Lead</th>
<th>End User/Individual Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use only evidence-based practices and resources for fueling, recovery, body composition, mental function enhancement, and arduous environment preparedness</td>
<td>• Use only evidence-based resources for fueling, recovery, body composition, mental function enhancement, and arduous environment preparedness</td>
</tr>
<tr>
<td>• Promote safe, effective, unbiased evidence-based supplement evaluation and recommendations</td>
<td>• Participate in lab assessments and field testing</td>
</tr>
<tr>
<td>• Conduct timely and relevant lab assessments and field testing</td>
<td>• Use supplements strategically and judiciously based on unbiased, evidence-based resources</td>
</tr>
</tbody>
</table>
Reactive Component

• Relationship between nutritional interventions and treatment of an illness, injury or condition from hospitalization through return to duty

• Includes:
  – Medical Nutrition Therapy (MNT)
  – Injury and illness recovery
  – Familial and lifestyle associated conditions/diseases
  – Acute medical situations (trauma)
  – Rehabilitation

• Impact on individual and organizations
## REACTIVE: Practical Application

<table>
<thead>
<tr>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Facilitate nutrition support throughout inpatient and outpatient treatment to the transition from rehabilitation to return to duty.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Director/HPO Lead</th>
<th>End User/Individual Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Request clinical nutrition support and refer for nutrition counseling as early as possible for all clinical conditions and rehabilitation with nutrition and body composition implications</td>
<td>• Seek nutrition counseling for wound healing, delayed rehabilitation outcomes, and unintentional body composition changes related to recovery</td>
</tr>
</tbody>
</table>
Program Considerations

- Resources
- Nutrition knowledge
- Food environment
- Competing interests
- Organizational culture
- Education and services
Take-Aways

• Comprehensive nutrition program:
  – Is one piece of a holistic HPO program
  – Focuses on closing the gap between current population state and desired end state
  – Includes proactive, active, and reactive components
  – Considers and overcomes potential obstacles
Acknowledgments

• Co-author: Russ Kotwal, MD, MPH

• Reviewers:
  – Heidi Clark, MS, RD
  – Aaron Crombie, PhD, RD
  – Leslie Funderburk, PhD, RD
  – William Gephardt, PA-S
  – Susie Parker-Simmons, MS, MEd, RD

• Past and current SOF Performance RDs and HP professionals

• Athletes and Military Service Members we have supported
References